

The American Fertilizer



Vol. 101

AUGUST 12, 1944

No. 1



• •
AMMONIUM NITRATE

•
SULPHATE of AMMONIA

•
ORGANIC AMMONIATES

•
SULPHUR
• •



Foreign
and
Domestic

ASHCRAFT-WILKINSON CO.

VEGETABLE OIL MEALS
AND
FEEDSTUFFS

Exclusive Distributors Duval Texas Sulphur

HOME OFFICE
ATLANTA, GA.
Cable Address: ASHCRAFT

OFFICES
CHARLESTON, S. C.
NORFOLK, VA.

America's Crop Corps helps bring Food Front Victory



This summer thousands of patriotic Americans are doing their part in helping the country's farmers with the tremendous task of raising the fighting food needed for Victory. From cities, towns, and hamlets they come . . . giving their summers, vacations, weekends . . . working shoulder to shoulder on farms all over the country . . . America's Crop Corps!

Aiding them in this great work are your

fertilizers . . . many of them compounded with potash. For it is this vital plant nutrient which makes possible the abundant *extra* yields needed on every Allied fighting front. Potash builds up resistance against plant disease and drought . . . increases healthy harvests.

Sunshine State Higrade Muriate of Potash, and the other grades you know, are aiding America's great agrarian army in the fight to fill the food storehouses of the world.



REG. U. S. PAT. OFF.

HIGRADE MURIATE OF POTASH 62/63% K₂O GRANULAR MURIATE OF POTASH 48/52% K₂O MANURE SALTS 22/26% K₂O

UNITED STATES POTASH COMPANY

Incorporated
50 ROCKEFELLER PLAZA • NEW YORK CITY

A Complete Service

THE strategic factory locations of the American Agricultural Chemical Company, as shown on the accompanying map, assure prompt, dependable service for the complete line of products listed below.

We manufacture all grades of Commercial Fertilizers, Superphosphate, Agrinite Tankage, Bone Black, Bone Black Pigments (Cosmic Black), Dicalcium Phosphate, Monocalcium Phosphate, Gelatin, Agricultural Insecticides (including Pyrox, Arsenate of Lead, Calcium Arsenate, etc.), Trisodium and Disodium Phosphate, Phosphorus, Phosphoric Acid, Sulphuric Acid, Salt Cake, and we are importers and/or dealers in Nitrate of Soda, Cyanamid, Potash Salts, Sulphate of Ammonia, Raw Bone Meal, Steamed Bone Meal, Sheep and Goat Manure, Fish and Blood. We mine and sell all grades of Florida Pebble Phosphate Rock.



FACTORIES

| | | |
|-------------------|----------------------|-----------------------|
| Alexandria, Va. | Detroit, Mich. | Pensacola, Fla. |
| Baltimore, Md. | East St. Louis, Ill. | Pierce, Fla. |
| Buffalo, N. Y. | Greensboro, N. C. | Port Hope, Ont., Can. |
| Carteret, N. J. | Havana, Cuba | Savannah, Ga. |
| Cayce, S. C. | Henderson, N. C. | Searsport, Maine |
| Chambly Canton, | Montgomery, Ala. | South Amboy, N. J. |
| Quebec, Can. | Norfolk, Va. | Spartanburg, S. C. |
| Charleston, S. C. | No. Weymouth, | West Haven, Conn. |
| Cincinnati, Ohio | Mass. | Wilmington, N. C. |
| Cleveland, Ohio | | |

The AMERICAN AGRICULTURAL CHEMICAL Co.

50 Church Street, New York City

SALES OFFICES



| | | | |
|-------------------|----------------------|------------------------|-----------------------|
| Alexandria, Va. | Columbia, S. C. | Laurel, Miss. | Pierce, Fla. |
| Baltimore, Md. | Detroit, Mich. | Montgomery, Ala. | Port Hope, Ont., Can. |
| Buffalo, N. Y. | East St. Louis, Ill. | Montreal, Quebec, Can. | Savannah, Ga. |
| Carteret, N. J. | Greensboro, N. C. | New York, N. Y. | Spartanburg, S. C. |
| Charleston, S. C. | Havana, Cuba | Norfolk, Va. | Wilmington, N. C. |
| Cincinnati, Ohio | Henderson, N. C. | No. Weymouth, Mass. | |
| Cleveland, Ohio | Houlton, Me. | Pensacola, Fla. | |

FLORIDA PEBBLE PHOSPHATE ROCK

PHOSPHATES FOR A VICTORY CROP

This year, more than ever before, American farmers need phosphates to grow bigger, better crops to feed America and her allies. Phosphate fertilizers are particularly important in "high vitality" war-crop production. With our background of 38 years in producing phosphate rock we are well prepared to meet wartime needs of the fertilizer industry for this essential plant food source. Because our experience includes the mining and preparation of all grades of Florida phosphate rock we are in a position to render valuable service to fertilizer manufacturers.



THE PHOSPHATE MINING CO.
110 WILLIAM STREET, NEW YORK • NICHOLS, FLORIDA



AMERICAN POTASH and CHEMICAL CORPORATION

122 East 42nd St.

New York City

Pioneer Producers of Muriate in America

Branch Offices

214 Walton Building
ATLANTA, GEORGIA

542 Conway Building
CHICAGO, ILLINOIS

609 South Grand Avenue
LOS ANGELES, CALIF.

MURIATE and SULPHATE of POTASH

Plant foods are urgently needed to grow the crops which feed our nation and our armed forces.

Our plant at Trona, Calif., is operating at capacity to provide supplies of these essential plant foods, and other materials needed in the national effort.

Manufacturers of Three Elephant Borax and Boric Acid

See page 27



Fertilizer Materials



Let us Quote on **YOUR** Requirements

PHOSPHATE ROCK
SUPERPHOSPHATE
DOUBLE SUPERPHOSPHATE
SULPHURIC ACID
BONE MEALS
DRIED BLOOD
TANKAGES
BONE BLACK
SHEEP MANURE
PIGMENT BLACK
SODIUM FLUOSILICATE

ARMOUR FERTILIZER WORKS

General Offices: Hurt Building, Atlanta, Ga.

Division Sales Offices:

Albany, Ga.
Atlanta, Ga.
Augusta, Ga.
Baltimore, Md.
Birmingham, Ala.
Chicago Heights, Ill.
Cincinnati, Ohio

Montgomery, Ala.

Columbia, S. C.
Columbus, Ga.
East St. Louis, Ill.
Greensboro, N. C.
Havana, Cuba
Houston, Texas
Jacksonville, Fla.

Wilmington, N. C.

Nashville, Tenn.
New Orleans, La.
New York, N. Y.
Norfolk, Va.
Presque Isle, Me.
San Juan, P. R.
Sandusky, Ohio

SHIP IN
Fulton
WATERPROOF BAGS

PREVENT
 DAMAGE FROM
 MOISTURE
 OXIDATION &
 ABRASION

PROTECT YOUR CHEMICALS




Experience shows that hygroscopic fertilizer materials need the protection of a waterproof textile bag. Nitrate of Soda, Ammonium nitrate, triple superphosphate and various top dresser mixtures containing similar materials are safely packed only in bags that are sift-proof and moisture resistant. Fulton waterproof paper lined bags will carry these products without loss all the way from manufacturer to farm. They have the necessary extra strength to stand frequent and rough handling.

Write our nearest plant for samples and prices.

Fulton Bag & Cotton Mills

Manufacturers Since 1870

Atlanta

Minneapolis

St. Louis

Dallas

New York

Kansas City, Kan.

New Orleans

...THE...

AMERICAN FERTILIZER

"That man is a benefactor to his race who makes two blades of grass to grow where but one grew before."

Vol. 101

AUGUST 12, 1944

No. 3

The Fertilizer Supply Outlook*

By DALE C. KIEFFER

Chief, Agricultural Chemicals Section, War Production Board

THE fertilizer industry is completing another war year in which the production and distribution of fertilizers has established new records. The trend in fertilizer use in this war is in marked contrast to the first World War when, due to the shortages of various components, the actual use of fertilizer declined in the face of efforts to increase food production.

We in the Chemicals Bureau of the War Production Board are proud of the production record which has been established by all branches of the fertilizer industry. In the face of terrific obstacles, due to shortages of labor, materials and shipping, the industry has still been able to offer almost unbelievable quantities of fertilizers to the farmer. At the beginning of the war, potash production in this country amounted to approximately 312,000 tons of K_2O . Beginning in 1940, the potash industry entered upon an expansion program which will carry production in 1944 to approximately 813,000 tons K_2O , almost twice as much potash as this country has ever consumed in any pre-war year. Production in 1945 is expected to reach a total of about 875,000 tons of K_2O . This is a production record that any industry can exhibit with pride.

In 1939, the production of normal and concentrated superphosphate in the United States was equivalent to 4,210,000 tons of 18% material. In 1943, production was in excess of 7,000,000 tons. In 1944, it will be approximately 8,560,000 tons, and in 1945 should exceed 9,000,000 tons.

In 1939, 342,000 tons of inorganic nitrogen were made available for agricultural use in this country as compared to 612,000 tons in

1943-44 and an estimated 644,000 tons in 1944-45 (assuming 150,000 tons of N from Chile). In order to establish these records, it has been necessary to provide for plant expansion programs to increase output in existing plants, and to work out shipping programs for the importation of nitrates from Chile.

It was gratifying to issue the allocations for the first ten months of 1944-45, even though it was not possible to give every fertilizer manufacturer in the United States all of the potash which he could effectively distribute. In view of the increased production, it was decided that certain areas of the country would receive proportionately more than others. Upon the recommendation of the War Food Administration, a pattern for allocation was established which granted an allocation to the country as a whole of 103% of the base. Last year the allocations were approximately 80% of the base.

According to the allocation pattern, certain areas of the country are receiving proportionately more than others, particularly those in the newer consuming areas. For example, Minnesota received 150% of their base; Wisconsin and Iowa, 130%; Illinois, Missouri, Indiana, and Michigan, 120%; and Ohio, Kentucky, and Tennessee, 115%.

In order to provide some idea of the tonages involved in the two periods, I should like to refer to a table comparing allocations of potash in Period Two and Period Four. In Period Two (June, 1943, through March, 1944) the allocation of 60% muriate for agricultural purposes in the United States, including Hawaii and Puerto Rico, amounted to 361,080 tons K_2O as compared to allocations in Period Four (June, 1944, through March, 1945), which have just been issued, of 508,288 tons. The allocation of 50% muriate was also greater than last year. We allocated 39,938

*An address before the 20th Annual Convention of the National Fertilizer Association, Atlanta, June 20, 1944.

tons in Period Two and this year allocations of 50% muriate were 44,381 tons K_2O . Sulphate of potash increased from 34,133 tons to 37,379 tons K_2O . There was very little change in the quantity of sulphate of potash-magnesia as compared to last year. A slight decrease occurred in manure salts. Last year we allocated 40,587 tons of K_2O as compared to 37,201 tons this year. The total K_2O allocations in Period Two amounted to 488,778 tons as contrasted to 641,329 tons in Period Four this year.

The figures I have just quoted include only agricultural potash. Total allocations in Period Two for all purposes amounted to 627,219 tons, as contrasted to 766,893 tons for Period Four. It is estimated that Period Four allocations will constitute approximately 87½% of the total potash which will be available during 1944-45. Slight variations in this percentage may occur as a result of decreased production due to various factors, or it may increase because of unexpected increases in production. It is not likely, however, that the total amount of potash available will vary materially from our present estimates unless unexpected production difficulties are encountered.

Superphosphate

The increased use of superphosphate during the war period has shocked the imagination of the industry. For years prior to the war our superphosphate industry was barely able to utilize more than 60% of production capacity. After being troubled with the problem of such an excess in production capacity over demand, it hardly seemed possible that the war would bring with it the need for an expansion program in the superphosphate industry. However, this was the case. It was possible to practically meet the program for 1943-44 without construction of additional facilities. Among the newly authorized projects are plants at Searsport, Maine; Pocatello, Idaho; Houston, Texas; Joplin, Missouri; and Chicago, Illinois. With the exception of the Joplin plant, none of the new plants will be in production before the beginning of the 1944-45 season. In addition to the proposed construction of new plants, there has also been large scale improvement of existing facilities. Along these lines, superphosphate producers have installed new machinery of labor-saving type and have been able to increase production with a comparatively small cost in materials.

Labor and sulphuric acid are the chief bottlenecks in superphosphate production. During the past few months, manpower

shortages constituted our most pressing problem. For a period we had more acid out of Government plants than the industry could absorb, due to the inability of the manufacturers to obtain sufficient labor to operate the superphosphate plants at capacity levels while shipping fertilizers during the peak season.

In the face of the shortage of phosphatic materials, it has been difficult for companies denied priority assistance for the construction of new superphosphate plants to understand the attitude of the War Production Board. On the basis of existing conditions, it should be understood that each industry in wartime must operate under some sort of a program. Unless this program is controlled, chaotic conditions would result with acute shortages of labor and materials even greater than those we have at the present time, and production of some commodities actually in excess of wartime requirements, by passing other critical wartime needs.

Because the shortage in production capacity for superphosphate is much more acute in the newer consuming areas, such as the Midwest, than in the Southeast, the new construction has been limited to those areas. Furthermore, inasmuch as the biggest bottlenecks in the Southeast at the present time are labor and sulphuric acid, the construction of a new Superphosphate plant in that area would contribute little in the way of production since it would result only in the diversion of acid from an existing plant.

In the interest of establishing a maximum superphosphate production program, a letter was mailed to all manufacturers of superphosphate establishing a quota for each plant. The quota represented 93% of the peak month's production. In other words, if every superphosphate plant in the United States operated for eleven months out of the year at the 1943-44 peak rate, we would be able to produce sufficient superphosphate to meet the program in 1944-45. We have received replies from a large number of companies and in very few cases have they indicated ability to meet the schedule. In most instances the reasons given are shortages of labor and sulphuric acid.

You will recall that last year we announced a similar program which has, according to monthly production records, turned out better than we really dared expect. At that time we scheduled 7,000,000 tons and production this year is going to be very close to that figure. We also told you that arrangements were

(Continued on page 24)

Post-War Relations Between Government and Industry*

By CHARLES J. BRAND

Executive Secretary and Treasurer, The National Fertilizer Association

(Continued from the July 29th Issue)

Some Conditions that Might Justify Government in Invading Private Fields

Before mentioning briefly several other matters that bear on my general topic, I want to speak of some conditions precedent that might justify continued government development of its activities in the field of our industry.

1. Careless Use or Unwarranted Waste of Natural Resources.

These abuses clearly are not occurring in the production of fertilizer minerals. Furthermore, too much is being made of the fact that phosphate rock "is exhaustible."

David E. Lilienthal, chairman, Tennessee Valley Authority, in his recent book, *TVA—Democracy on the March*, says:

"But phosphate rock—the raw material—is exhaustible, and when exhausted is irreplaceable."

No one, particularly in the fertilizer industry, condones waste. As an illustration, this industry in fact conserved for decades the waste and by-products of the packing and oil seed industries until they became so valuable for feed or food that their elevated prices forbade further use for plant food.

It would have been in order if Mr. Lilienthal in his book had mentioned the fact that the known deposits of phosphate rock of presently mineable qualities, which is equivalent to saying of better grades, are of such tremendous magnitude that there is no likelihood whatsoever of our exhausting them for a period of from three to five thousand years. In addition there are literally millions of acres of phosphatic deposits that have not even been mapped. Further, there are tremendous deposits in Russia, North Africa, the South Pacific islands, and no doubt elsewhere.

2. Failure to Provide the Nation with an Adequate Supply of an Essential Commodity.

As fertilizers are responsible for approximately one-fifth of the total production of crops in the United States, even the most

critical might be expected to agree to their essentiality.

Our country has led the world in the development of the superphosphate industry. When we entered the national and international picture on a large scale beginning with the discovery of the South Carolina rock beds in 1867, the world was relying largely upon bones and low-grade coprolites treated with sulphuric acid for its phosphoric acid. Supplies were wholly insufficient. By 1880 our production was 205,000 tons; 1920, 5,130,000 tons; at the depth of the depression in 1932, it had fallen to 1,705,000 tons; in 1943 we produced over 7,000,000 tons. We now have set our goal for production at the rate of 8,000,000 tons a year. It is only fair to say that except momentarily and locally under war conditions no one ever is denied access to the phosphorus that is so essential to crop and livestock production.

Even in the field of concentrated superphosphate production a private company began its manufacture for fertilizer purposes in 1907 and has offered its goods constantly every year since that time. The Tennessee Valley Authority, concerning whose activities in this field so much misleading propaganda has been spread, did not begin to manufacture concentrated superphosphate until 1935—28 years later. Furthermore, let there be no mistake about it, TVA concentrated superphosphate is not one whit better for crop production than the so-called triple superphosphate produced by many private companies in quantities far exceeding that produced by the Tennessee Valley Authority which, however, is no small producer. Neither is it better than normal superphosphate, the use of which is world-wide.

The achievements of private enterprise in the field of nitrogen production have already been indicated though not specifically described. It is sufficient to say that in 1880 we had available from domestic production and imports 18,800 short tons of nitrogen. By 1930, the agricultural supply had risen to

375,800 tons. Again, the terrific impact of the great depression cut consumption down to 219,000 tons in 1932. In 1941, before Government production played any notable role in our domestic supply, consumption provided from private enterprise had risen to 453,000 tons. That portion that comes from Chile in the form of sodium nitrate is produced by private enterprise. During 1943 there was made available to American agriculture a total of 460,000 tons of N and in 1944 over 600,000 tons. This took the form of domestic by-product sulphate of ammonia, domestic synthetic nitrogen carriers, partly produced in Government plants, Chilean imports of the natural product, and considerable imports produced in Canadian war plants.

What private industry has achieved in the field of potash production in the United States reads like a fairy tale. In 1880 we used 20,000 tons of potash. All of it came from Germany. In 1910 we used 270,000 tons and it still came from Germany. (Be it said in passing that, even when they had a monopoly, prices of German potash were in line with the all-commodity index of our own country.) In 1915 World War I cut off potash supplies so that only 50,000 tons, mostly previous importations, were the maximum available for American agriculture. That year saw the production of about 1,000 tons in the United States, but little of it was used for agriculture. By 1930 we were using 350,000 tons, of which we produced 45,000 tons and imported 305,000 tons. Thereafter our potash industry began really to develop. By 1937, out of a total agricultural consumption of 410,000 tons, domestic producers supplied 190,000 tons and imports totaled 220,000 tons. In 1943 American agriculture used almost exactly 600,000 tons of potash, 590,000 tons of which were produced domestically.

All of these separate materials express themselves finally in the consumption of mixed fertilizer in the United States. High labor costs and many other factors resulted in the development in our country of a compound fertilizer industry which has not developed to that extent in other nations. The mixed fertilizer industry is rapidly developing in other countries as labor rates and other considerations press upon the farmer.

In 1880 the private industry supplied American farmers with approximately 1,150,000 tons of fertilizer of all kinds. In 1944 it will have supplied something more than 12,000,000 tons. Certainly this picture affords no excuse for Government invasion of the field of the fertilizer industry.

Before going to my next point I feel I should touch upon a related matter:

Officials of the TVA, including Chairman Lilienthal and Dr. Harcourt A. Morgan, a small number of agricultural college, experiment station, and extension administrative officials unfamiliar with the fertilizer industry, several of them located in territories where very little fertilizer is used, regularly over-emphasize the deficiency in the application of phosphates, which, according to their view, prevails throughout the United States. Views of this limited group can be readily summarized by the quotation of a single sentence from Chairman Lilienthal's book. On page 108 he says:

"Thus the present *woefully limited use* of phosphate upon the land could be multiplied, and both private and public interest could be served."

Now the fertilizer industry agrees that there is an insufficient use of phosphate on the land. That is why it has constantly increased its production and for decades has put all kinds of sales pressure behind the distribution of its product to American farmers. Our own Association has been engaged in this activity for more than thirty years, and has spent literally millions of dollars in promoting greater use of all types of manufactured plant foods, particularly superphosphates.

The view that we have "*woefully limited use*" is not a well-informed view. I wish not to be misunderstood. I am strongly in favor of using more phosphate, but I want it used where it ought to be used. I don't want it used under the misapprehension that it is needed where it is not needed. In the long run wasteful use produces uneconomic results and back-fires on the industry that may be responsible.

In point of fact, according to the War Food Administration's estimates, all crops remove annually slightly more than 1,300,000 tons of phosphoric acid (P_2O_5) from the soil. This year we are adding, through commercial fertilizers, almost exactly the same quantity—1,300,000 tons. Hundreds, if not thousands, of farmers know that they are using fully as much phosphate as they should use. Competent agronomists support this view.

Farmers are quick to put into effect any good practice for the use of any promotive agency that helps them to do better farming and to make a better living. It has been demonstrated time and again that for every dollar spent by the farmer for commercial plant food he gets back anywhere from \$2.00 to \$10.00, the present average being in excess of \$5.00, war prices of farm commodities being

high and fertilizer prices being low. A number of our best informed agronomists insist that on Eastern and Southern farms more phosphoric acid is being added to the soil than is being removed by crops and livestock. In the Middle Western, Great Plains, and Western States, more is being removed than is being restored at the present time. Use in these latter areas is on the constant increase, and what the Government should be doing is to educate the farmers in these deficit territories, rather than to promote the indiscriminate and excessive use of phosphate where it may not be needed. Let's not treat all of the patients for nervous prostration. Some of them have diphtheria.

3. Monopoly Abuses, Such as Are Forbidden by the Antitrust Laws.

I know of no business which offers an easier entry than the fertilizer business. About all that is necessary by way of investment is a little cash or credit, a dry building, and a limited amount of mixing equipment. This condition has resulted in a large number of plants, some large, some small, with considerable aggregate over-capacity and with operators who are keen for available business and compete severely with each other to get it. Under these conditions it seems incredible that anyone could believe that monopolization plays any part in justifying Government participation in the fertilizer business.

Between 800 and 900 companies participated in the production of the 12,000,000 tons of fertilizer that have gone to the American farms during the current fertilizer year. All of these companies that are near enough to each other to be competitive are in competition not only with respect to price, as has been indicated, but also with respect to quality, service, and other factors. In wartime, maximum prices fixed by OPA constitute an additional restraint in the event temporary conditions might tend toward unduly high prices, which they have not.

In the field of superphosphate manufacture, where at least one Government agency seems set on developing with the greatest vigor, there are some 171 privately owned plants with a maximum annual capacity of approximately 8,500,000 tons, expressed in terms of normal superphosphate. For twenty-five years capacity was far in excess of demand or consumption—a condition which indicates the opposite of monopoly.

In the field of potash production, while the number of producers is far smaller, competition has been active, prices have been reason-

able, and production has been ample. After the world has waked up from the bad dream of this war, stretched itself, and straightened out again, all potash production will be seeking its usual world-wide markets and the United States will not escape. This involves Germany, France, Poland, Spain, Russia, Palestine, and possibly other nations.

Expansion of potash production in the United States, from less than 2,000 tons in 1915, to more than 700,000 tons, in fact more nearly 800,000 tons, in 1944, provides a comprehensive answer to anyone who might argue in favor of Government invasion of this field. Further, I might add if there should be lurking somewhere so undisclosed as to be scarcely findable, any such thing as evil monopolization the thing to do is to get rid of it, not to turn to Government for production and distribution.

4. Charging the Consumer an Excessive Price.

Presently all fertilizers are sold under governmentally fixed price ceilings. I think it is only right to say that the men who have handled this price work have done so competently, honestly, and fairly. The maximum prices are fair or they would not be the prices. You do not need to rely upon my assurance. We have covered this so many times in our national, regional, and local meetings that I only mention it now in order that my presentation may be complete.

We bring out the facts as to fertilizer prices briefly, but pointedly, in our new bulletin, *Fertilizer Industry Forges Ahead*, which you have received lately. The chart on page 25 of that pamphlet shows that prices paid for fertilizer by farmers have been consistently below the prices paid by farmers for all commodities, including fertilizers, between the years 1925 and 1943. Furthermore, in only six out of nineteen years were the prices of fertilizer relatively higher than the prices of farm products.

Today the picture can be summarized briefly by saying that, as of May 15th, the index number of fertilizer prices was 121; that of all commodities bought by farmers was 175; that of prices received by farmers for the things they sell was 194. This price relationship not only speaks eloquently of the reasonableness of the fertilizer industry's charges for its services but is utterly inconsistent with any notion of monopoly.

I always hesitate to mention the present high range of prices of farm commodities without calling attention to the fact that only in about six years since 1890 has the index

(Continued on page 26)

An Old Timer Asks Some Questions

By HORACE HINKLE

(With York Chemical Works, York, Pa., since 1897, and still on the job)

Having been associated with the fertilizer industry since the days when $\frac{1}{2}$ -7-1 was a popular grade, I have lived through many seasons, some bad, some better. I have seen many improvements and have noted much progress.

I have learned that my competitors are my friends, not my enemies. They have taught me many things. I have grown so accustomed to competition that I like it; that is, legitimate competition.

Not many years ago TVA came into the fertilizer picture by producing fertilizer materials as a side-line. As a means of reducing overall costs of this government project, there may be no objection to this government activity. But why shouldn't such materials, so produced, be sold to the established fertilizer industry for processing and distribution through regular trade channels to the ultimate consumer instead of being dispensed by the government direct to farmers?

I should like to have the answer.

Soil conservation under government auspices has many things in its favor. Insofar as it conveys to farmers methods and means whereby they can farm better, prevent soil erosion, and more scientifically and understandingly conduct their business, it is an excellent and much appreciated government activity. But why should a farmer be paid to comply with soil conservation suggestions and plans which are for his own benefit—paid with the taxpayers' money?

I should like to have the answer.

And if he must be paid, why should a farmer be told, as he was in Pennsylvania last season, that he *must* accept his pay in government lime products or fertilizer?

I should like to have the answer.

Last January, one of our trade journals reported that the Secretary of Agriculture recently appeared before the Senate Committee on Post-War Economic Policy and Planning to suggest possible government operation after the war, of certain plants having possibilities in fertilizer production.

"I hope that before any decisions are made as to the disposal of, or dismantling of these various types of plants," he said, referring to government-owned plants making ammonia, nitrates, sulphuric acid, etc., "that a careful

study will be made of their best potential utilization to aid our agriculture."

Reporting that farmers are especially interested in this potentiality, he suggested that many of these war facilities can help produce nitrogenous fertilizers or superphosphates, insecticides, or fungicides at low cost. For such purposes, he pointed out, many of these plants are located in favorable regions with respect to distribution of their products.

In view of the fact that more than 10 per cent of fertilizer consumed in the United States during the last fiscal year (1943) was government-distributed, might it not be pertinent to inquire just what the Secretary of Agriculture has in mind? Is the government to continue and further expand its fertilizer activities in competition with private industry?

I should like to have the answer.

Why is it that co-operatives conducting a business in direct competition with private industry are exempt from many taxes imposed on private industry; and why can co-ops borrow the taxpayers' money from the government at low rates of interest to conduct their businesses, when private industry with which they compete is denied the privilege of similar loans?

I should like to have the answer.

Crago to Head Cyanamid Phosphate Rock Production

American Cyanamid Company announces the appointment, effective August 1, 1944, of Arthur Crago as manager of its phosphate rock production operations. Mr. Crago will be in charge of, and will have full responsibility for all of the Company's activities in the Florida phosphate rock field, with headquarters at Brewster, Florida.

Mr. Crago's early training was received at the University of Florida at Gainesville and he comes to American Cyanamid after having had wide practical experience in the phosphate rock mining industry. Previous positions held include Manager, Phosphate Recovery Corporation, Mulberry, Florida; Manager of Phosphate Mining Company, Nichols, Florida; Assistant Superintendent of U. S. Phosphoric Products Division of Tennessee Corporation at Tampa.

Mr. Crago is a member of the Mining and Metallurgical Society of America and of the American Institute of Mining and Metallurgical Engineers.

IT MAY BE

CROP ESTIMATES FOR 1944

The United States owes a great deal to the farmers for their untiring efforts in maintaining and increasing the amount of foodstuffs raised during this era of difficulty and need. For four years, weather has been generally favorable and yields large.

On July 11th, the Department of Agriculture's report indicated that if conditions continued good for the next six weeks, sufficient food to carry our Nation through until the 1945 growing season would be assured. The wheat crop is estimated at 1,128,000,000 bushels, or 119,000,000 bushels greater than the previous record crop of 1915, and 291,000,000 bushels higher than last year's crop. The corn crop is expected to total about 3,000,000,000 bushels, or 600,000,000 bushels above the 1933-1942 average. It is 100,000,000 bushels less than last year's huge crop, but it has been exceeded in only four years, 1906, 1920, 1942 and 1943. Thus, for three consecutive years we have had bumper wartime crops. Other foodstuffs needed will in the main show satisfactory yields.

TURKEY

There has been a lot of noise about Turkey coming in on the side of the Allies. Aside from the psychology—so what! They have a standing army of 5000 men and 400 outdated planes, and there's your Turkish Army all dressed up in loincloths. And now comes news Turkey won't necessarily fight, but they will make the Balkans more jittery and this in turn will weaken the Germans in the south. If this outfit can give the Germans such a fright, we should be looking for Germany to fold up any month now.

RUSSIA

The Russians seem to be fighting a different kind of invasion war than was the German policy. The German method was to destroy everything in sight whereas the Russians are trying to invade with as little destruction as possible. It may be, the Russians want to make use of German factories in reconstruction, to force Germans to restore, repair and repay what they have destroyed.

NELSON—WPB

Watch the Nelson-WPB order of August 15th, permitting civilian production be

By SAMUEL L. VEITCH

jumped on by the Military heads. They may go so far as to try to stop it, but won't get anywhere. This order is relatively short in its present scope, but it will be the starting point on which many manufacturers can base plans for later real reconversion. Top Army tops are afraid War Production will lag from employees taking postwar jobs. WPB say "No," a man will stick to high pay war jobs until that line of work becomes a dead dodo. In effect, WPB is saying to the Army leaders you fellows are swell guys, and are doing a nice job of fighting a war, but you don't know how the average worker thinks. You don't understand public mass psychology. Well, you can bet last year's fertilizer bag the Army is correct; that a lot of men will give up war work at the first opportunity to get back to a job offering postwar security. The proof of it lies in the fact it's now happening all over the country in the larger cities.

LABOR BOARD

The Labor Board has gotten to be Public Joke No. 1 among the A. F. of L. and the C. I. O. It may be, the whole detail is backfiring on them. Labor leaders listen for awhile then go outside for a big laugh and return again to listen to more Malarky (Malarky when translated into English means "Bull"), and the strangest thing of all is the Labor Board knows it is being laughed at by the Unions, which in turn causes the administration a lot of worry. So what do you suppose they are now thinking about doing? You guessed it, they are thinking of starting a NEW Labor Board. Every day new rules. Who can tell, maybe a few months later they would get together a New Labor Board.

SERVICEMEN

The Army may be trying to work out a plan for discharging soldiers in relation to length of service, regardless of age or if combat or con-combatant. The plan would apply to individual G. I.'s and not entire Military Units. Lots of people feel all the soldiers will be moved to the Pacific after the German war is over. Only a very few will be sent to the Pacific, but at the same time youngsters will still continue to be drafted while veterans are being discharged. Wouldn't it be great if a lot of these discharged soldiers will be home by Christmas? It may be.

THE AMERICAN FERTILIZER

ESTABLISHED 1894

PUBLISHED EVERY OTHER SATURDAY BY

WARE BROS. COMPANY

1830 VINE STREET, PHILADELPHIA, PA.

A MAGAZINE INTERNATIONAL IN SCOPE AND CIRCULATION
DEVOTED EXCLUSIVELY TO THE COMMERCIAL FERTILIZER
INDUSTRY AND ITS ALLIED INDUSTRIES

PIONEER JOURNAL OF THE FERTILIZER INDUSTRY

WARE BROS. COMPANY

PUBLISHERS

1830 VINE STREET

PHILADELPHIA, PA.

A. A. WARE, EDITOR

ANNUAL SUBSCRIPTION RATES

| | |
|--|--------|
| U. S. and its possessions, also Cuba and Panama..... | \$3.00 |
| Canada and Mexico | 4.00 |
| Other Foreign Countries | 5.00 |
| Single Copy | .25 |
| Back Numbers | .50 |

THE AMERICAN FERTILIZER is not necessarily in accord with opinions expressed in contributed articles that appear in its columns. Copyright, 1944, by Ware Bros. Company.

Vol. 101

AUGUST 12, 1944

No. 3

Principal Articles in This Issue

| | |
|---|----|
| THE FERTILIZER SUPPLY OUTLOOK..... | 7 |
| POST-WAR RELATIONS BETWEEN GOVERNMENT AND INDUSTRY (Continued)..... | 9 |
| An Old Timer Asks Some Questions..... | 12 |
| IT MAY BE | 13 |
| Increased Potash Allocations Point to More Concentrated Mixtures..... | 14 |
| June Sulphate of Ammonia..... | 16 |
| FERTILIZER MATERIALS MARKET: | |
| New York..... | 17 |
| Baltimore..... | 17 |
| Charleston..... | 19 |
| Chicago..... | 19 |
| Tennessee Phosphate..... | 19 |
| TVA Feed Phosphates Free From Harmful Ingredients..... | 22 |

Increased Potash Allocations Point to More Concentrated Mixtures

The War Food Administration, in its release of June 22, 1944, entitled "More Fertilizer in Prospect for Use in 1944-45," states the official forecast of potash supplies as being "21 per cent more than in 1943-44." Since, in that year the War Production Board allocated 604,156 tons K_2O for use within the United States, Puerto Rico and Hawaii, a 21 per cent increase represents 126,873 tons K_2O , or a total of 731,000 tons K_2O for agricultural use during 1944-45. Of this amount 650,000 tons K_2O is being allocated in the current Period 4 (for contract delivery, June 30th to March 31st), the balance of 80,000 tons to be allocated in January for Period 5.

In addition to this unprecedented tonnage for agricultural use within the United States, Canadian requirements of 46,000 tons K_2O are being supplied, the American chemical industry is being allocated 100,000 tons K_2O , and additional tonnages are set aside for export, representing a noteworthy achievement in potash production under war conditions, *the American potash industry's contribution to the Nation's war effort.*

Now, having accomplished an agriculture potash production rate of 731,000 tons K_2O called for by the Nation's war-food program, the task confronting the industry is its *distribution* to the farms where it must be delivered if it is to serve the purpose for which it is being produced—war food.

Since the mixed-fertilizer industry is at present the sole retail distributor of potash to the farmer and the above-mentioned agricultural supply has been placed subject to its option, it is a safe conclusion that that industry will continue to make an all-out effort to meet the obligation which it has assumed, a three-way obligation: to the potash industry, for whose product in the agricultural field it is the exclusive retail agency; to the American farmer, the customer whom it serves; and to the war agencies with whom it cooperates in this most important war effort.

The serious handicap of a limited labor supply in fertilizer plants is well recognized. Despite that handicap, the industry during 1943-44 was able to produce $7\frac{3}{4}$ million tons of mixed goods, according to WFA estimates. In view of the extraordinary effort required to achieve this result, the conclusion seems warranted that, in the absence of a drastic improvement in the labor supply situation, the 1944-45 output will not exceed 8 million tons of mixed goods.

In past years, it was estimated, the farmer customarily bought 90 per cent of his potash requirements as mixed goods and the remaining 10 per cent as potash salts. On this basis, to distribute 731,000 tons K_2O , the farmer would have to buy 73,000 tons K_2O as materials and the remaining 658,000 tons K_2O as mixed goods, both unprecedented in amounts calling for unprecedented effort if this potash is to be distributed for use in the war-food program. To distribute this 658,000 tons K_2O in 8 million tons of mixed goods will require a weighted average content of 8.2 per cent K_2O . In 1942-43, however, the farmer bought only 6 per cent of his supplies as potash salts and in 1943-44 only a fraction of that amount. If, during the current year he returns to the 6 per cent level, he will purchase as salts some 44,000 tons K_2O , leaving a balance of 687,000 tons K_2O to be distributed as 8.6 per cent of 8 million tons of mixed goods.

In 1942-43, the average potash content of mixed goods approximated 7.5 per cent K_2O . To return to that average would signally fail to meet the requirements of our present distribution problem, as it would leave a balance of 130,000 tons K_2O to be retailed as salts or distributed in some other manner. On the other hand, to raise the average from that level to 8.6 per cent K_2O , an increase of 1.1 per cent, would increase the price per ton by only 80 cents, under existing price ceilings. Certainly this would appear to be the logical solution of the potash distribution problem, particularly so as it would be in entire accord with agronomic principles.

This indicates the necessity of further increasing the plant-food content of mixed goods in which widely advocated enterprise we have made great progress in recent years. The economic advantages, particularly under wartime conditions of restricted labor supply, transportation facilities and materials, are thoroughly well understood. While higher plant-food concentrations means higher per-ton prices, they mean lower costs per unit plant food, a saving which any farmer would appreciate. In leaner years, it appeared, the per-ton price had to be given first consideration, a situation that no longer exists with the present farm income of 20 billion dollars and with other commodities which the farmer would like to buy in limited supply. The record of many years shows that his expenditure for fertilizers is influenced by his income, the two rising and falling together. It is clear, therefore, that the farmer is now in the market for plant food, and with the money now in his pocket with little else to spend it

for, he will not be inclined to haggle over the per-ton price, particularly so under the present system of price ceilings, equitably established and faithfully observed.

Texas Gulf Sulphur Again Awarded Army-Navy "E"

The Texas Gulf Sulphur Company has won for the fourth time the Army-Navy Production Award for outstanding achievement in producing materials essential to the war effort. A third White Star has therefore been added to the Army-Navy Production Award flag which was given to the Company on November 2, 1942. The announcement of the award was made by Robert P. Patterson, Under Secretary of War, during the last week in July.

Obituary

Ellsworth Dougherty, Jr.

Ellsworth Dougherty, Jr., well-known broker in fertilizer and feed materials, died at his home in Rutledge, Pa. on July 27th. Mr. Dougherty, who was 54 years of age at the time of his death, had been engaged in the fertilizer brokerage business in Philadelphia for more than thirty years. Starting in partnership with his father, he joined the staff of Samuel D. Keim in 1925. In January, 1943, he retired because of ill health and for the year and a half devoted his time and efforts to his agricultural interests. Mr. Dougherty had a large acquaintance throughout the fertilizer industry.

James B. Caldwell

James B. Caldwell, president of Caldwell & Co., fertilizer manufacturers, Spartanburg, S. C., died on July 13th. Mr. Caldwell was one of the founders of the company in 1917 and held the office of president up to the time of his death.

Charles E. Wilkins

Charles E. Wilkins, of Wm. B. Tilghman Co., fertilizer manufacturers, Salisbury, Md., died on July 29th, after an illness of six months. Mr. Wilkins, who had held the position of sales manager for almost 20 years, was also active in the business, civic and religious affairs of his community.

June Sulphate of Ammonia

The figures of the U. S. Bureau of Mines show that production of by-product sulphate of ammonia during June declined 4.6 per cent from the May output. The total for the first half of the calendar year, however, came to 406,053 tons, an increase of 8 per cent over the same period of 1943. Sales during June dropped to 42,547 tons as compared with 50,974 tons in May. There was a distinct increase in stocks on hand at the end of the month, the supply amounting to 69,300 tons. This is the first time in many months that more than a month's production was in store at the producers' plants at the end of the period. As it is expected that mixing will start earlier than usual this fall, a large portion of this supply will doubtless be taken by fertilizer manufacturers in the near future.

| | Sulphate of Ammonia Tons | Ammonia Liquor Tons NH ₃ |
|-------------------------|--------------------------------|---|
| Production | | |
| June, 1944..... | 66,521 | 2,433 |
| May, 1944..... | 69,728 | 2,737 |
| June, 1943..... | 60,036 | 2,796 |
| January-June, 1944..... | 406,053 | 15,963 |
| January-June, 1943..... | 376,746 | 16,959 |
| Sales | | |
| June, 1944..... | 42,547 | 2,330 |
| May, 1944..... | 50,974 | 2,527 |
| June, 1943..... | 40,587 | 2,804 |
| Stocks on Hand | | |
| June 30, 1944..... | 69,300 | 705 |
| May 31, 1944..... | 45,236 | 732 |
| June 30, 1943..... | 39,568 | 922 |

International Appoints Traffic Officers

International Minerals & Chemical Corporation has announced the appointment of Sinclair B. McCoy as traffic manager and Edward R. White as assistant traffic manager. They will be located at the main offices of the company in Chicago.

Grafius Retires from Coronet Phosphate

After 27 years of service, A. B. Grafius, vice-president of the Coronet Phosphate Co., New York, retired on June 30th. Mr. Grafius will continue to act as a director of the company.

Committee Discusses Superphosphate Problems

On July 27th the WPB Superphosphate Producers Industry Advisory Committee met in joint session with the superphosphate sub-committee of WFA. Based on replies from the industry to the letters suggesting plant quotas, 1944-45 production of superphosphate should approximate 8,000,000 tons, basis 18 per cent. There has been a drastic reduction in the amount of spent sulphuric acid available under the government distribution program for superphosphate production. The quantity available for distribution in August is estimated at approximately 8,000 tons basis 100 per cent acid, as compared with approximately 30,000 tons in recent months.

Supplies of phosphate rock were believed adequate. There was considerable discussion regarding the serious shortage of labor, several of the industry representatives stating that present efforts of government agencies to provide additional laborers for acidulating plants are ineffective, especially in the Southeast.

The committee recommended: (1) That the Ordnance Department be requested to start production of sulphuric acid at the Gopher plant at the earliest date possible. (2) That the necessary priorities be granted for prompt completion of all sulphuric acid projects which have been approved. (3) That if WPB and WFA decide that it is necessary to provide additional facilities for superphosphate production, they should be provided by industry.

BRADLEY & BAKER

FERTILIZER MATERIALS - FEEDSTUFFS

AGENTS - IMPORTERS - BROKERS

155 E. 44th Street
NEW YORK

Clinton St. & Danville Ave.
Baltimore, Md.

BRANCHES
505 Royster Building
Norfolk, Va.

1252 West Beaver Street
Jacksonville, Fla.

504 Merchants-Exchange Bldg., St. Louis, Mo.

FERTILIZER MATERIALS MARKET

NEW YORK

Early Shipment of Fertilizers Necessary If Larger Tonnage Is to Be Obtained. Shortage of Fertilizer Sulphate of Ammonia May Develop Later. Manpower Limits Output of Superphosphate and Phosphate Rock.

Exclusive Correspondence to "The American Fertilizer"

NEW YORK, August 8, 1944.

From all indications there will be large supplies of fertilizers available for the new season but in order to have material available for the farmers, it will be necessary that considerable portions of finished products be delivered during the last six months of this year, even though not needed by the farmer until after the first of the year. New ceiling prices are expected to be maintained throughout the industry.

Ammoniates

It is possible that sulphate of ammonia and ammonia liquors may be diverted in larger quantities for the manufacture of munitions and with this possibility in mind, some of the buyers are ordering in larger quantities for prompt shipment than ordinarily would be the case.

Superphosphate

Due to the manpower shortage expected increases in superphosphate production have not materialized and deliveries are being made as fast as possible with no accumulation of stock piles. The starting of new plants may relieve this situation to some extent but there does not seem to be any possibility of any surplus of superphosphate for some time to come.

Potash

With the expected increase in potash production, it is anticipated that mixed goods will have an increased percentage of potash, more in line with prewar material.

Phosphate Rock

There has been no change in the situation, all mines producing to capacity but labor conditions do hinder production to some extent.

BALTIMORE

No Special Features in Between-Seasons Market. Nitrate of Soda Allocated for Top Dressing. Superphosphate Market Firm.

Exclusive Correspondence to "The American Fertilizer"

BALTIMORE, August 8, 1944.

The usual between-season lull is now on and the market on fertilizer materials was without any special feature.

Ammoniates.—Organic ammoniates are still going into feeding channels at ceiling prices.

Castor Pomace.—Producers continue well sold up and are not taking on any new business.

Fish Scrap.—Due to unfavorable weather conditions the catch during the past two weeks has been off, and there have been no further sales at ceiling prices.

Sulphate of Ammonia.—Manufacturers have taken such quantities as are allocated to them, in addition to ammonia liquor.

Nitrate of Soda.—Due to the fact that all producers were not able to ship their spring orders of complete fertilizer, WPB is authorizing a limited quantity in bags in this section for the months of August, September and October for direct application to the soil, up to 25 per cent of the established base tonnage. Any not used for top dressing will be against manufacturers allotment for the coming season.

Superphosphate.—The market remains firm at recently increased price of 65 cents per unit of A. P. A. in bulk, f. o. b. producers' works, Baltimore. No heavy stocks are accumulating and the situation is firm.

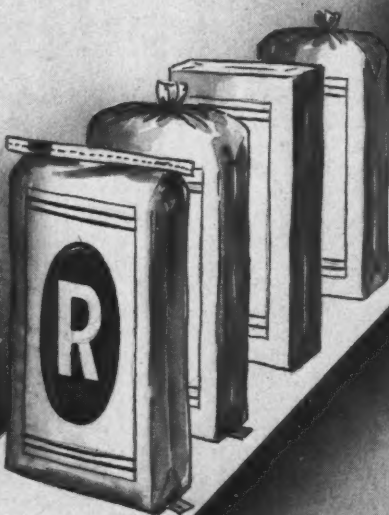
Potash.—Nothing new in the situation and deliveries are now being made against contracts previously booked.

Bone Meal.—Such limited quantities as are coming on the market are being used for feeding purposes as the ceiling price is almost prohibitive for fertilizer.



FIRST—Buy a Bond Today!
There'll be no post-war planning
if we fail to win the war and the
surest way to fail is to put off
buying Bonds.

Post-war **PLANNING**



RAYMOND **MULTI-WALL** **PAPER** **SHIPPING SACKS**

Here's the modern SHIPPING SACKS that stepped right into the all-out war program. The SACKS that stop waste and prevent damage to valuable war materials. The SACKS that save time, worry and inconvenience all along the packing and shipping lines . . . and FERTILIZER, one of the war's most essential products, ranks at the top of the list of powdered materials that are packed and shipped in RAYMOND SACKS.

The large, modern, daylight Raymond plant is planning now to meet the growing demand for RAYMOND MULTI-WALL PAPER SHIPPING SACKS. When you think of post-war plans think of RAYMOND SHIPPING SACKS.

THE RAYMOND BAG COMPANY
MIDDLETOWN, OHIO.

Bags—The market on new burlap bags for fertilizer purposes continues unchanged, and there have been some orders placed recently for the coming season's business. The market remains unchanged, and as the importation of burlap is through governmental agencies no changes are anticipated in the near future.

CHARLESTOWN

Good Cotton Crop Expected. Shortage of Organics Continues. More Acid Needed if Higher Superphosphate Program Is to Be Met.

Exclusive Correspondence to "The American Fertilizer"

CHARLESTON, August 8, 1944.

Prospects for the cotton crop, so far, look excellent in the Southeast.

Organics.—No improvement, so far, in the situation as regards supply on these.

Ammonium Nitrate.—It is now rumored that for war purposes most of the ammonium nitrate beginning this fall will be taken off the fertilizer market.

Sulphate of Ammonia.—The production of this for June was nearly 5 per cent below the May production, while the stocks at the close of June showed an increase of over 24,000 tons above what it was at the end of May. Hence the production is moving rapidly to buyers.

Superphosphate.—While it has been estimated that 8,000,000 tons will be needed for the 1944-45 fertilizer season, a change in ordnance plant operations has recently cut seriously the supply of spent sulphuric acid. Up to a few weeks ago 30,000 tons per month of spent sulphuric acid have been distributed. Now it is estimated that during the present month there will only be allotted 8,000 tons basis 100 per cent acid.

CHICAGO

Fertilizer Organics Market at Standstill. Market for Feed Materials Shows Mixed Trend.

Exclusive Correspondence to "The American Fertilizer"

CHICAGO, August 7, 1944.

Marked quietness continues in the organic market, trading being virtually at a standstill. Prices remain at ceilings, but sellers seem unable to put out offerings, while buyers are anxiously awaiting renewal of market activity.

In feed there is a demand, at the ceiling, for good quality dry rendered tankage, but for wet rendered tankage mixers are showing signs of becoming particular as to quality and cost of freight from producing points.

Ceiling prices are:

High grade ground fertilizer tankage, \$3.85 to \$4.00 (\$4.68 to \$4.86 per unit N) and 10 cents; standard grades crushed feeding tankage, \$5.53 per unit ammonia (\$6.72 per unit N); blood, \$5.53 (\$6.72 per unit N); dry rendered tankage, \$1.25 per unit of protein, f. o. b. producing points.

TENNESSEE PHOSPHATE

Water Shortage Threatens Some Phosphate Washing Plants. Full Production Handicapped by Manpower Shortage.

Exclusive Correspondence to "The American Fertilizer"

COLUMBIA, TENN., August 7, 1944.

The hot dry weather with continued damage to crops of all kinds kept up until well into the first week of August, when showers broke the intense heat. Now more and more green is visible and some hope exists that the corn crop will be some better than estimated a month ago.

Prospects of being compelled to shut down for lack of water for washing confront some of the phosphate plants whose water supply is not of the best as to quantity, but if the rains just starting keep up a little while, this

Manufacturers' Sales Agents for **DOMESTIC**

Sulphate of Ammonia

Ammonia Liquor :: Anhydrous Ammonia

HYDROCARBON PRODUCTS CO., INC.

500 Fifth Avenue, New York

added obstacle to getting out tonnage now in such terrific demand may be avoided.

Some of the large early tobacco crops are cut and reported very fine. Others that have had to be cut are very poor quality and only the prospect of a large sucker or second crop will bring those growers out of the red.

Shipments continue active to all consuming channels of all grades of phosphate rock, but the large tonnage effected by one plant in June, was curtailed in July by serious breakdowns and by additional shortage of manpower. Unless more farmers content themselves with undergoing the additional trouble and expense of handling in bulk, there will be an enormous number of users of ground rock for direct application disappointed during the peak season of preferred use of this product in August and September.

It is reported that another grinding unit has been installed by Virginia-Carolina Chemical Co. mining branch for increased production of ground rock for the two distributors served by them, namely Robin Jones Phosphate Co. and Midwest Phosphate Co.

Full capacity of all the grinding units in the field will not be possible to reach until some very considerable relief comes to the manpower situation, which appears to be getting worse. Recent decision and directives of the WLB has fixed the minimum wage at 50 cents per hour, with proportionate advances in all scales up to 90 cents per hour, all retroactive to the beginning of the time when union application was made.

Nitrate of Soda Available for Direct Application

The War Production Board has written a letter to fertilizer manufacturers east of the Rockies advising them that a limited quantity of nitrate of soda in bags will be available during the months of August through October.

To take care of requirements for direct application only, during that period, each manufacturer is permitted to order from his supplier up to 25 per cent of his established base, in each State in which he operates. WPB warns that orders should be placed well in advance of needs so as to avoid delays in shipment. Nitrate of soda so taken is not to be considered a supplemental allocation but will be charged against the manufacturer's total allotment for the 1944-45 season. No nitrate of soda may be used in the manufacture of mixed fertilizers. According to present estimates, WPB expects to be able to allocate about as much nitrate of soda for direct application during 1944-45 as was allocated for that purpose last season.

Lightfoot Joins Potash Co. of America Staff

Potash Company of America has announced the appointment, on August 1st, of C. E. Lightfoot as supervisor of sales for the southern districts. Mr. Lightfoot has had many years of experience in the fertilizer industry, having been formerly connected with the sales of agricultural nitrogen by the Barrett Division of the Allied Chemical & Dye Corp. Mr. Lightfoot will have his headquarters at the main office of the company, 50 Broadway, New York City.

Chilean Nitrate Bureau Issues New Supplement to Minor Element Bibliography

The Chilean Nitrate Educational Bureau, Inc., announces publication of the fifth supplement to the third edition of the *Bibliography of References to the Literature on the Minor Elements and Their Relation to Plant and Animal Nutrition*.

The first edition of this Bibliography was



Trade Mark Registered

MAGNESIUM LIMESTONE

"It's a Dolomite"

American Limestone Company

Knoxville, Tenn.



SUL-PO-MAG

SUPPLIES QUICK-ACTING MAGNESIUM

When International Potash is loaded into box cars for shipment to your plant, you can be confident that it will satisfy your requirements for quality and mechanical condition. Two reasons why: the rich quality of the potash ore; and the excellence of its preparation by exclusive processes developed by International's engineers. International Potash will save you time and money in manufacturing fertilizer that will give your customers the results they want.

SUL-PO-MAG
Water Soluble
 SULPHATE OF POTASH-MAGNESIA
MURIATE OF POTASH
SULPHATE OF POTASH



International

MINERALS & CHEMICAL CORPORATION

General Offices • 20 North Wacker Drive • Chicago, 6

District Sales Offices • 61 Broadway, New York, N. Y. • Chicago • Volunteer Bldg., Atlanta, Ga.

published in August, 1936; the second in November, 1936; and the third, the last complete edition, in February, 1939. Subsequently, the first supplement was published in April, 1940; the second, April, 1941; the third, May, 1942; and the fourth in June, 1943.

The latest publication in this series, the fifth supplement, contains 722 abstracts, which include 117 crops and 40 elements. There are 919 authors listed. Complete indices are provided, including an element index, a botanical index, an author index, and for the first time, an index to abstracts dealing with animal nutrition.

TVA Feed Phosphates Free From Harmful Ingredients

In the May 20th issue of THE AMERICAN FERTILIZER, mention was made of the production by TVA of fused tricalcium phosphate for feeding purposes and it was suggested "that there is a possibility of the formation of some metaphosphate and possibly pyrophosphate in this fused product, both of which are reported by some authorities as toxic."

In a communication from Arthur M. Miller, director of the Department of Chemical Engineering, Tennessee Valley Authority, he states that the fused tricalcium phosphate produced by TVA is so manufactured that the formation of these harmful by-products cannot occur. Mr. Miller writes as follows:

"In the process developed by TVA for the defluorination of rock phosphate at high temperatures, the conditions are such that conversion to metaphosphate does not occur. The phase diagram of the system $\text{CaO-P}_2\text{O}_5\text{-SiO}_2$ shows that the range in which pyrophosphate occurs is far removed from the compositions encountered in TVA fused tricalcium phosphate. The fact that our fused product does not contain either metaphosphate or pyrophosphate has been confirmed by petrographic examinations.

"Extensive feedings have been made with the TVA fused tricalcium phosphate, and it has been shown to be a very satisfactory source of phosphate as a mineral supplement in the diet of animals. These tests were carried out by the Tennessee Valley Authority, Muscle Shoals, Alabama, with rats; the U. S. Public Health Service, Bethesda, Maryland, with rats; the Agricultural Experiment Station of Cornell University, Ithaca, New York, with rats; the Storrs Experiment Station, Storrs, Connecticut, with chicks; the

Georgia Agricultural Experiment Station, with swine and dogs; the Kentucky Agricultural Experiment Station, with chicks; and the University of Tennessee, with rats.

"Your attention is called to the following statement by K. D. Jacob (Phosphorus Supplements for Livestock, *Feedstuffs*, February 12, 1944): 'Owing to its high value as a source of phosphorus for both plants and animals, defluorinated phosphate rock is an especially desirable material.'"

Fertilizer Must Be Moved to Farms

The United States apparently can have a record amount of fertilizer during the year that began July 1, 1944, provided at least $4\frac{1}{2}$ million tons of it are delivered to farms in the last six months of this year, the War Food Administration reports. This would be a million tons more than was delivered in the same months last year.

Officials said there is a practical limit to the amount of fertilizer manufacturers can produce and deliver during the rush period from January to June. This means they can deliver the total amount permitted by supplies of fertilizer materials only if larger amounts than ever before are moved to farms by the end of December.

In the July-December period of 1943, fertilizer deliveries totaled 3,500,000 tons; in the same months of 1942, deliveries amounted to 2,000,000 tons.

Authorities say it is thoroughly practical to store fertilizer from fall until spring wherever dry space is available.

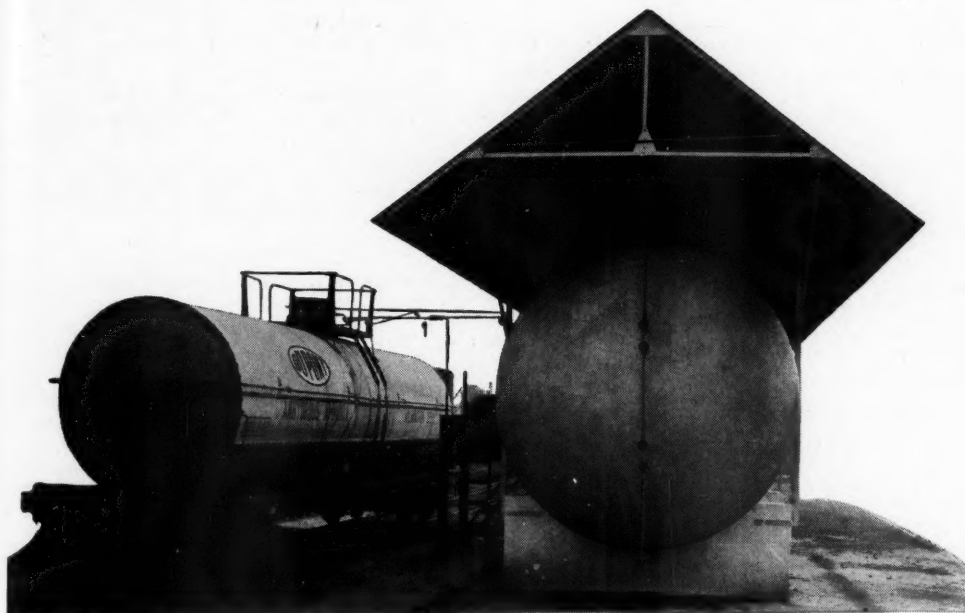
WFA officials point out that even the potential fertilizer supply will probably not meet the demand and that crop production could be increased still further if more fertilizer were available. These are compelling reasons, officials believe, for ordering fertilizer early and accepting delivery early.

Stedman FERTILIZER PLANT EQUIPMENT

Dependable for Fifty Years

| | | |
|----------------|---------------|------------|
| All-Steel | Pan Mixers— | Vibrating |
| Self-Contained | Wet Mixing | Screens |
| Fertilizer | Swing Hammer | Dust Weigh |
| Mixing Units | and Cage Type | Hoppers |
| Batch Mixers— | Tailings | Acid Weigh |
| Dry Batching | Pulverizers | Scales |

STEDMAN'S FOUNDRY & MACHINE WORKS
AURORA, INDIANA, U. S. A. Founded 1884



How **STORAGE TANKS** can help Fertilizer Manufacturers

STORAGE TANKS for Urea-Ammonia Liquor, when installed on your premises, can be a real help in insuring flexibility of manufacturing operations, for they make it possible to have a supply of ammoniating liquor on hand at all times. In addition, such an installation enables you to unload tank cars promptly, releasing this critically needed equipment promptly for further service.

Our service representatives are avail-

able for consultation. For information and blueprints of storage tanks, write to: E. I. du Pont de Nemours & Co. (Inc.), Ammonia Department, Wilmington 98, Delaware.

KEEP ON BUYING WAR BONDS

**DU PONT
UREA-AMMONIA
LIQUORS**

URAMON*

FERTILIZER COMPOUND



BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY

*REG. U. S. PAT. OFF.

THE FERTILIZER SUPPLY OUTLOOK

(Continued from page 8)

being made to utilize Government acid producing facilities in the production of superphosphate through the cooperation of the Ordnance Department. This program got under way about the first of the year. Since that time 207,000 tons of sulphuric acid, basis 100%, have been delivered to acidulators in the Southeast and Middle Atlantic states. In view of the uncertainties of the coming year, it is practically impossible to forecast the tonnage of acid which may be expected from the government plants. As it appears now, there will be a substantial decrease in the acid available in the Southeast and an increase in the Middle Atlantic states.

It may be possible to partially relieve the situation in the South by delivering some acid from the Northeast into the Southern Ohio area now being served by the Copperhill and government plants located in the South, thus releasing an equivalent tonnage for distribution to fertilizer plants in the Deep South. If this readjustment can be successfully carried out, the impact of the shortage will not be so great, and the effect on area production will be held to a minimum.

The present annual operating rate of the industry is about 8,250,000 tons of normal and concentrated superphosphate, basis 18% P_2O_5 , and only an optimist would forecast that 1944-45 production would exceed 9,500,000 tons. This, however, is enough to carry on a greatly expanded fertilizer program and provide additional quantities for use on feed and forage crops.

Any attempt to estimate the supply of nitrogen available for agriculture for the coming year is subject to considerable uncertainty. Production and requirements for military purposes indicate that no nitrogen will be available for agriculture from ordnance plants after November 1st. The War Shipping Administration indicates that the shipping situation will be uncertain and this will be reflected in the importation of Chilean nitrate of soda.

It must be realized that the military authorities cannot afford to underestimate their requirements. If it should develop that their estimates turn out to be very safe and surplus material be made available, an increase in agricultural nitrogen would occur over the present figures. On the other hand if the military production and requirements attain the levels now predicted, we will be faced with a definite shortage in the late fall.

The shortages will occur in ammonium nitrate and nitrogen solutions, which cannot readily be manufactured and stored during the low consuming period. In view of these facts, it is our recommendation that every fertilizer manufacturer should arrange to use all the ammonium nitrate and nitrogen solutions possible during the summer months when the supply will be relatively easy, and then in the fall, if the shortage develops, sulphate of ammonia can be used to complete the mixing program.

If it seems at this time that, owing to increased use of solutions, the sulphate allocation appears larger than needed, it would be unwise to release any until the fall position of nitrogen can be more accurately determined. If the shortage does not develop and no need occurs for a part of the sulphate of ammonia which you have been allocated, as indicated by the producers' monthly inventory, steps will be taken to redistribute the surplus.

Exclusive of organics and imported nitrate of soda, we estimate that there will be available for agriculture in the United States, Puerto Rico and Hawaii 493,000 tons of inorganic nitrogen. This compares with a figure of 522,000 tons for the same area last year.

It is impossible at this time to accurately

Mineralize with Es-Min-El!

For quality fruits and vegetables feed your
soil minerals . . . the essential mineral
elements found in Es-Min-El.

The Mark of Quality
TC
TENNESSEE CORPORATION

Write Us
For
Free Bulletins

TENNESSEE CORPORATION
ATLANTA, GEORGIA LOCKLAND, OHIO

ON CONSTANT GUARD

Against the enemies ...of your products



Will absorbed moisture—or evaporation—damage your packaged products? Is there possibility of your products absorbing foreign odors while in storage or in transit? Or of losing their natural, desirable aroma? Is sifting a problem? Or vermin? Or contamination?

If the answer is "yes" to any of these questions, and if your products are in powdered, granular, crystal or lump form, then Bemis Waterproof Bags are just what the doctor ordered. They give full protection against all these enemies of your products.

How will you know what particular type of bag your products require?

That's one of the tasks of the Bemis Shipping Research Laboratory. With specially designed equipment, chemists and research specialists determine what bag materials and constructions should go into each job.

Almost as important as top protection for your products are the major money savings you enjoy.

Bemis Waterproof Bags cost less than other containers giving comparable protection. Further, they save storage space on both empty and filled bags—they speed up filling, closing and handling time—they save on shipping costs—and frequently reduce damage claims.

Send the coupon today for the interesting booklet—"A Guide to More Efficient Shipping." Then, if you wish, one of our representatives will call on you to discuss your packaging requirements. No obligation, of course.

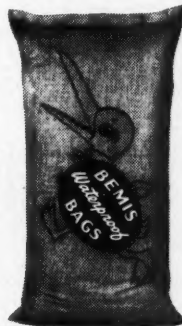
HERE'S A QUICK PICTURE OF THE SIMPLEST TYPE OF BEMIS WATERPROOF BAG. THIS 3-PLY CONSTRUCTION CONSISTS OF:



1. An inside layer of flexible creped kraft paper impregnated with...
2. a layer of waterproof adhesive that also seals the interstices in the...
3. outside layer of tough, closely woven fabric and cements both layers together.

The outer fabric may be either cotton or burlap. The kind of bonding adhesive depends upon the commodity to be packed. One or more linings of paper and adhesive may be incorporated depending upon the protection needed. Bag seams may be cemented or sewn.

**THEY'RE TAILOR-MADE
TO YOUR JOB**



WATERPROOF DEPARTMENT

BEMIS BRO. BAG CO.

ST. LOUIS • BROOKLYN

BEMIS BRO. BAG CO., 408-N Pine St., St. Louis 2, Mo.;
5122 Second Ave., Brooklyn, N. Y.

Please send your special booklet, "A Guide to More Efficient Shipping," and details about use of Bemis Waterproof Bags for _____ (PRODUCT)

Firm Name _____

Street Address _____

City _____ State _____

Mark for the attention of _____

estimate the tonnage of nitrate of soda that will be imported from Chile. The development of the military situation will determine to a great extent how much material will be received. During the year just closing, slightly less than 600,000 tons were received and stocks on hand July 1st are expected to be almost negligible. In order to meet the requirements for 1944-45, it will be necessary to bring in about 1,000,000 tons of Chilean nitrate. An importation of approximately 1,000,000 tons of nitrate of soda has been made in only one recent year and then solely because of a drastic shortage of agricultural nitrogen due to military demands.

All domestic sources of nitrogen must be utilized to the fullest extent if we are to meet the agricultural requirements for the coming year and avoid a heavy drain on our shipping.

Due to the substantial increase in available materials in 1944-45, it is expected that there will be a corresponding increase in the sale of fertilizers. It is doubtful, however, that the actual tonnage handled can be substantially increased in the face of labor shortages and present plant capacities. We have now reached a point where the most effective way to increase the sale of plant food to the farmer is through increased concentration, thereby reducing the tons to be handled, the bags involved, and transportation. The record of the industry in the direction of fewer grades and increased plant food per ton since Pearl Harbor is very commendable.

For the agricultural year 1944-45 we shall witness the largest year-to-year change in the plant food content of fertilizers in the United States that this country has ever experienced, and with farmers receiving greatly increased quantities of plant food without a material increase in the tonnage of fertilizers delivered.

POST-WAR RELATIONS BETWEEN GOVERNMENT AND INDUSTRY

(Continued from page 11)

number of farm prices been higher than the index number of all commodities. In other words, during more than fifty years the farmer has been at a price disadvantage almost all of the time.

President Coolidge, who had an uncommon amount of common horse sense, covered this matter in an address to the Daughters of the American Revolution, in Washington, on April 16, 1928. He said:

"If it is desirable to protect the people in their freedom and independence, if it is desirable to avoid the blighting effects of monopoly supported by the money of the taxpayer, if it is desirable to prevent the existence of a privileged class, if it is desirable to shield public officials from the influence of propaganda and the acute pressure of entrenched selfishness, if it is desirable to keep the Government unencumbered and clean, with a single eye to public service, we shall leave the conduct of our private business with the individual, where it belongs, and not undertake to unload it on the Government."

A Few Suggestions or Recommendations

Realism and common sense require recognition of the fact that Government always has had and always will have profoundly important relations to American business. We should think out and try to achieve a constructive position adapted to the public interest and to the interests of our industry.

In the brief time that I have left I offer the following suggestions:

I. As far as is necessary, Government should be the source of sound general rules for the conduct of all business but it should leave the actual operation of business to private enterprises under whose direction the most efficient

• SOUTHERN PHOSPHATE CORPORATION •

Miners of FLORIDA LAND PEBBLE

PHOSPHATE ROCK

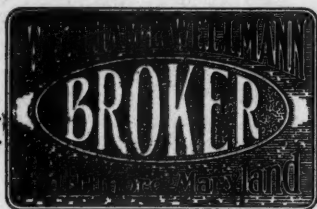
—all commercial grades!

Plants at Sangully, Pauway, Medulla and Ridgewood, Fla.

MAIN OFFICE

• 342 Madison Avenue •

NEW YORK CITY



Specializing in

Sulphate of Ammonia
Low Grade Ammoniates
Superphosphate
Sulphuric Acid
Bags

*Inquiries and offerings
invited*

KEYSER BUILDING

Keyed SERVICE!

Fertilizer plants all over the country—large and small—state their needs and we meet them. Large stocks of seasoned materials and ample modern production facilities enable us to make prompt shipments.

TRIPLE SUPERPHOSPHATE

46 to 48% Available Phosphoric Acid

We also manufacture
HIGH-GRADE SUPERPHOSPHATE


U. S. Phosphoric Products

Division
TENNESSEE CORPORATION

Tampa, Florida

New York Office:
61 Broadway
Washington, D. C.
440 The Woodward Bldg.

Sales Agents:
Bradley & Baker
186 East 44th St.
New York, N. Y.

A Mark of  *Reliability*

SPECIFY THREE ELEPHANT



... WHEN BORON IS NEEDED TO CORRECT A DEFICIENCY OF THIS IMPORTANT SECONDARY ELEMENT

Agricultural authorities have shown that a lack of Boron in the soil can result in deficiency diseases which seriously impair the yield and quality of crops.

When Boron deficiencies are found, follow the recommendations of local County Agents or State Experiment Stations.

Information and references available on request.

AMERICAN POTASH & CHEMICAL CORPORATION

122 East 42nd ST., NEW YORK CITY

Pioneer Producers of Muriate of Potash in America
See Page 4



and the most beneficent industrial economy in history has been developed in this country.

II. It should promote the interests of American agriculture by research, experimentation, education, and demonstration—not by engaging in the business of manufacture and distribution of commodities for farm use.

III. It should take proper and adequate steps to provide for future national defense needs, keeping war plants in stand-by condition to whatever extent may be necessary. Competent engineering skill is available in the military staffs to determine what is surplus.

An example of what seems unnecessary and arbitrary Government interference with normal business operations is seen in the recent creation, with TVA help and encouragement, of an agency known as Associated Cooperatives, Incorporated, to distribute Government-produced ammonium nitrate to fertilizer manufacturers. Granted, as has been claimed, that it is not practicable for a Government agency to handle such business relationships, the fact remains that there were and are in existence numerous private enterprisers who have long performed such distribution services efficiently and to the satisfaction of all concerned. The necessity for the creation of this new agency in a field already capably filled by enterprisers ready and able to take on the job has not been satisfactorily explained.

My remarks at this point would scarcely be complete without a reference to the vigorous opposition of the National Council of Farmer Cooperatives to Government interference with the American system of private enterprise. In a recently adopted public policy resolution the Council said:

"We view with alarm numerous trends in Government tending to seriously impair the economic, political and social security of the nation, as well as to destroy the system of private enterprise under which we have developed in America the best economy and highest standard of living of any nation in all the world's history.

"The struggle between the people and those who seek to control them has been a long one.

"We need now to remind ourselves that

human nature is such that the possession of power by men not only creates a desire to have such power perpetuated but also to have it enlarged.

"We oppose the delegation of all unnecessary or excess authority and urge the prompt repeal of laws which are in conflict with the spirit of the Bill of Rights. We also urge the repeal of all war emergency statutes as soon as that emergency ends."

IV. Surplus property, acquired for war purposes, but no longer needed for the war emergency, should be disposed of according to law. Great business skill, a deep sense of public responsibility, expert consideration of the true public interest, and a determination to do what, *on balance*, is best for the public welfare in the long run must govern the officials upon whom Congress imposes the duty of surplus disposal.

To win the war it was necessary to experiment with death on the beach at Dieppe, on the sands at Salerno and Anzio and in Normandy. Certainly if the lives of our men are "expendable" at such a juncture it should not be impossible, with reasonable facility, to dispose of property in the best interest of the Republic, including land, buildings, machinery, military materiel of every kind, manufacturing plants, and whatever else is involved in clearing up the economic debris of war.

Some Related Matters

Earlier in my talk I spoke of wishing to mention briefly several other matters. They are: 1. labor relations; 2. taxation.

1. Labor Relations.

Here is a vast field of economic and social relations in which Government formerly played a minor part. This has, in a way, been particularly true of our own business. The component elements of industry, namely, owners, managers, and employees, have dealt with their common problems more or less successfully on the basis of voluntary conference and agreement. Adjustments have not been made fast enough to suit some, so in recent years Government, under various kinds of pressure and sometimes not without some reason, has waded deeper and deeper into the stream of

L.W. HUBER COMPANY
Brokers Fertilizer
 Materials ~ Room 903 ~
 170 BROADWAY
 NEW YORK 7, N.Y.

Producers of SULPHUR

Large stocks carried at all times, permitting prompt shipments . . . Uniformly high purity of 99½% or better . . . Free of arsenic, selenium and tellurium.

TEXAS GULF SULPHUR CO.
73 E. 45th Street New York 17, N.Y.
Mine: Newgulf, Texas

MAILING LISTS



GET OUR FREE
REFERENCE
BOOK and
MAILING
LIST CATALOG
FREE

Gives counts and prices on accurate guaranteed mailing lists of all classes of business enterprises in the U. S. Wholesalers—Retailers—Manufacturers by classification and state. Also hundreds of selections of individuals such as professional men, auto owners, income lists, etc.

Write today for your copy

R. L. POLK & CO.

Polk Bldg.—Detroit, Mich.

Branches in Principal Cities

World's Largest City Directory Publishers

Mailing List Compilers, Business Statistics, Producers of Direct Mail Advertising

ALEX. M. McIVER & SON

Official Brokers for
MILORGANITE

Specializing

Nitrogenous Materials

Blood and Fertilizer Tankage

Phosphate Rock

Bone Meals

Manganese Sulphate

**SOUTH AMERICAN DRY
RENDERED TANKAGE**

**PEOPLES OFFICE BUILDING
Charleston, S. C.**

industrial labor intervention, and has prescribed what might be called a labor code. This has been brought about through the enactment of several laws, such as the National Labor Relations Act, the Federal Wage and Hour Act, and various mediation and other acts.

Government is in the labor relations field to stay. We should do our part to see that sound policies, fair to all concerned, are worked out and then followed without unfair discrimination. Collective bargaining has been accepted as in a broad sense the germ of the solution of the problem. As a matter of sound principle it seems to me that we should promote collective bargaining at the local level where there is sufficient common interest and common understanding to reach agreements that, by their fairness and practicality, will be held binding upon all.

Certainly the future welfare and domestic peace of our country make the finding of right solutions for labor problems imperative. They will call for give and take, forbearance, fairness, frankness, mutually sympathetic understanding, and honesty in all dealings with one another. Perhaps another way of saying the same thing is that the question of "Who is right?" that has been so dominant in the past, must be subordinated, and all concerned must help to reach decisions on "What is right?" and then act accordingly.

2. Taxation.

Government must tax. There is no common sense in crying out, wildly and indiscriminately, against taxation. But the long-established maxim that the right to tax is the right to destroy is also true. So we should take a citizen's part and responsibility to see that taxes are laid wisely and well, and not discriminatively and destructively. We must also fearlessly do the citizens' part to insist that expenditures of every kind be made prudently and to satisfy real needs where real governmental responsibility exists and not in realms of political, economic, and social reform.

The wise disposal of Government property comes in here to an extent. Taxes may be lighter or heavier, depending upon returns from sales or other disposals. With the colossal and still-growing debt under which the nation must struggle in the future, it is imperative that waste be avoided in every possible way, that, *on balance* is sound and constructive.

In the language of Scripture, "What shall it profit a man if he gain the whole world and lose his own soul?" As applied to the present juncture we might say, "What shall it profit the nation if, to avoid legitimate losses in disposing of war properties, it cripples the private enterprise system which has already produced almost beyond imagination for the war effort, and which must be relied upon to bring about the quickest and most fruitful return to a peace economy?"

Only three or four days ago I was speaking with Senator Barkley, of Kentucky, an American whose loyalty is above reproach and who wants the war won and ended so that America can return promptly to her American path. He feels sure that there is no authoritative effort being made to exchange our institutions for others of foreign make. I, too, feel certain that if he has in mind the Congress of the United States he is right, but I am not so sure of his rightness when I think of many employees and officials in some of the executive branches of the Government. I am convinced that only eternal vigilance and self-disciplined determination and effort on the part of a majority of our citizens will truly preserve our Government and the institutions that we, as a people, have cherished for more than a century and a half. I want to conclude by reading a short document that one of our Washington printers received on an unsigned card in his morning mail. It is entitled:

"NOT THE TEN COMMANDMENTS"

1. You cannot bring about prosperity by discouraging thrift.
2. You cannot strengthen the weak by weakening the strong.
3. You cannot help small men by tearing down big men.
4. You cannot help the poor by destroying the rich.
5. You cannot lift the wage earner by pulling down the wage payer.
6. You cannot keep out of trouble by spending more than your income.
7. You cannot further the brotherhood of man by inciting class hatred.
8. You cannot establish sound security on borrowed money.
9. You cannot build character and courage by taking away man's initiative and independence.
10. You cannot help men permanently by doing for them what they could and should do for themselves.

BUYERS' GUIDE •

A CLASSIFIED INDEX TO ALL THE ADVERTISERS IN "THE AMERICAN FERTILIZER"



This list contains representative concerns in the Commercial Fertilizer Industry, including fertilizer manufacturers, machinery and equipment manufacturers, dealers in and manufacturers of commercial fertilizer materials and supplies, brokers, chemists, etc. For Alphabetical List of Advertisers, see page 33.



AMMONIA—Anhydrous and Liquor

Barrett Division, The, Allied Chemical & Dye Corp., New York City.
DuPont de Nemours & Co., E. I., Wilmington, Del.
Hydrocarbon Products Co., New York City.

AMMONIUM NITRATE SOLUTIONS

Barrett Division, The, Allied Chemical & Dye Corp., New York City.

BAG MANUFACTURERS—Burlap

Bemis Bro. Bag Co., St. Louis, Mo.
Fulton Bag & Cotton Mills, Atlanta, Ga.

BAG MANUFACTURERS—Cotton

Bemis Bro. Bag Co., St. Louis, Mo.
Fulton Bag & Cotton Mills, Atlanta, Ga.

BAG MANUFACTURERS—Paper

Bemis Bro. Bag Co., St. Louis, Mo.
Fulton Bag & Cotton Mills, Atlanta, Ga.
Raymond Bag Co., Middletown, Ohio.
St. Regis Paper Co., New York City.

BAGS—Dealers and Brokers

Ashcraft-Wilkinson Co., Atlanta, Ga.
Huber & Company, New York City.
McIver & Son, Alex. M., Charleston, S. C.
Wellmann, William E., Baltimore, Md.

BAG CLOSING MACHINES

St. Regis Paper Co., New York City.

BAGGING MACHINES—For Filling Sacks

St. Regis Paper Co., New York City.
Sackett & Sons Co., The A. J., Baltimore, Md.
Utility Works, The, East Point, Ga.

BONE BLACK

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Huber & Company, New York City.

BONE PRODUCTS

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Bradley & Baker, New York City.
Huber & Company, New York City.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

BORAX AND BORIC ACID

American Potash and Chem. Corp., New York City.

BROKERS

Ashcraft-Wilkinson Co., Atlanta, Ga.
Bradley & Baker, New York City.
Dickerson Co., The, Philadelphia, Pa.
Huber & Company, New York City.
Keim, Samuel D., Philadelphia, Pa.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

BUCKETS—Elevator

Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

BUCKETS—For Hoists, Cranes, etc.

Hayward Company, The, New York City.

CARBONATE OF AMMONIA

American Agricultural Chemical Co., New York City.
DuPont de Nemours & Co., E. I., Wilmington, Del.

CARS AND CARTS

Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

CHEMICALS

American Agricultural Chemical Co., New York City.
American Cyanamid Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Barrett Division, The, Allied Chemical & Dye Corp., New York City.
Bradley & Baker, New York City.
DuPont de Nemours & Co., E. I., Wilmington, Del.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Phosphate Mining Co., The, New York City.
Wellmann, William E., Baltimore, Md.

CHEMISTS AND ASSAYERS

Gascoyne & Co., Baltimore, Md.
Shuey & Company, Inc., Savannah, Ga.
Stillwell & Gladding, New York City.
Wiley & Company, Baltimore, Md.

CONDITIONERS AND FILLERS

American Limestone Co., Knoxville, Tenn.
Keim, Samuel D., Philadelphia, Pa.
Phosphate Mining Co., The, New York City.

COPPER SULPHATE

Tennessee Corporation, Atlanta, Ga.

COTTONSEED PRODUCTS

Ashcraft-Wilkinson Co., Atlanta, Ga.
Bradley & Baker, New York City.
Huber & Company, New York City.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

CYANAMID

American Agricultural Chemical Co., New York City.
American Cyanamid Co., New York City.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Bradley & Baker, New York City.
Wellmann, William E., Baltimore, Md.

DRYERS

Sackett & Sons Co., The A. J., Baltimore, Md.

ENGINEERS—Chemical and Industrial

Chemical Construction Corp., New York City.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

FERTILIZER MANUFACTURERS

American Agricultural Chemical Co., New York City.
American Cyanamid Company, New York City.
Armour Fertilizer Works, Atlanta, Ga.
Farmers Fertilizer Company, Columbus, Ohio.
International Minerals and Chemical Corporation, Chicago, Ill.
Phosphate Mining Co., The, New York City.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.

FISH SCRAP AND OIL

Ashcraft-Wilkinson Co., Atlanta, Ga.
Bradley & Baker, New York City.
Huber & Company, New York City.
McIver & Son, Alex. M., Charleston, S. C.
Wellmann, William E., Baltimore, Md.

FOUNDERS AND MACHINISTS

Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

A Classified Index to Advertisers in
"The American Fertilizer"

BUYERS' GUIDE

For an Alphabetical List of all the
Advertisers, see page 33

HOPPERS

Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

IMPORTERS, EXPORTERS

Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Bradley & Baker, New York City.
Wellmann, William E., Baltimore, Md.

IRON SULPHATE

Tennessee Corporation, Atlanta, Ga.

INSECTICIDES

American Agricultural Chemical Co., New York City.

LIMESTONE

American Agricultural Chemical Co., New York City.
American Limestone Co., Knoxville, Tenn.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Bradley & Baker, New York City.
McIver & Son, Alex. M., Charleston, S. C.
Wellmann, William E., Baltimore, Md.

LOADERS—Car and Wagon

Sackett & Sons Co., The A. J., Baltimore, Md.

MACHINERY—Acid Making and Handling

Chemical Construction Corp., New York City.
Monarch Mfg. Works, Inc., Philadelphia, Pa.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

MACHINERY—Ammoniating

Sackett & Sons Co., The A. J., Baltimore, Md.

MACHINERY—Elevating and Conveying

Hayward Company, The, New York City.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

MACHINERY—Grinding and Pulverizing

Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

MACHINERY—Material Handling

Hayward Company, The, New York City.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

MACHINERY—Mixing, Screening and Bagging

Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

MACHINERY—Power Transmission

Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

MACHINERY—Superphosphate Manufacturing

Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

MANGANESE SULPHATE

McIver & Son, Alex. M., Charleston, S. C.
Tennessee Corporation, Atlanta, Ga.

MIXERS

Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

NITRATE OF SODA

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Barrett Division, The, Allied Chemical & Dye Corp., New York City.
Bradley & Baker, New York City.
Chilean Nitrate Sales Corp., New York City.

NITRATE OF SODA—Continued

Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

NITROGEN SOLUTIONS

Barrett Division, The, Allied Chemical & Dye Corp., New York City.

NITROGENOUS ORGANIC MATERIAL

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Bradley & Baker, New York City.
DuPont de Nemours & Co., Wilmington, Del.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Smith-Rowland Co., Norfolk, Va.
Wellmann, William E., Baltimore, Md.

NOZZLES—Spray

Monarch Mfg. Works, Philadelphia, Pa.

PHOSPHATE ROCK

American Agricultural Chemical Co., New York City.
American Cyanamid Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Bradley & Baker, New York City.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Phosphate Mining Co., The, New York City.
Ruhm, H. D., Mount Pleasant, Tenn.
Schmaltz, Jos. H., Chicago, Ill.
Southern Phosphate Corp., Baltimore, Md.
Wellmann, William E., Baltimore, Md.

PLANT CONSTRUCTION—Fertilizer and Acid

Chemical Construction Corp., New York City.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

POTASH SALTS—Dealers and Brokers

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Bradley & Baker, New York City.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

POTASH SALTS—Manufacturers

American Potash and Chem. Corp., New York City.
Potash Co. of America, New York City.
International Minerals & Chemical Corp., Chicago, Ill.
United States Potash Co., New York City.

PYRITES—Brokers

Ashcraft-Wilkinson Co., Atlanta, Ga.
Wellmann, William E., Baltimore, Md.

REPAIR PARTS AND CASTINGS

Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

ROUGH AMMONIATES

Bradley & Baker, New York City.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

SCALES—including Automatic Bagging

Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

BUYERS' GUIDE

SCREENS

Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.
Utility Works, The, East Point, Ga.

SEPARATORS—Air

Sackett & Sons Co., The A. J., Baltimore, Md.

SPRAYS—Acid Chambers

Monarch Mfg. Works, Inc., Philadelphia, Pa.

SULPHATE OF AMMONIA

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Barrett Division, The, Allied Chemical & Dye Corp., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
Hydrocarbon Products Co., New York City.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

SULPHUR

Ashcraft-Wilkinson Co., Atlanta, Ga.
Texas Gulf Sulphur Co., New York City.

SULPHURIC ACID

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Bradley & Baker, New York City.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.
Wellmann, William E., Baltimore, Md.

SUPERPHOSPHATE

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Bradley & Baker, New York City.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.
Wellmann, William E., Baltimore, Md.

SUPERPHOSPHATE—Concentrated

Armour Fertilizer Works, Atlanta, Ga.
International Minerals & Chemical Corporation, Chicago, Ill.
Phosphate Mining Co., The, New York City.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.

TANKAGE

American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Bradley & Baker, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

UREA

DuPont de Nemours & Co., E. I., Wilmington, Del.

UREA-AMMONIA LIQUOR

DuPont de Nemours & Co., E. I., Wilmington, Del.

VALVES

Monarch Mfg. Works, Inc., Philadelphia, Pa.
Utility Works, The, East Point, Ga.

ZINC SULPHATE

Tennessee Corporation, Atlanta, Ga.

Alphabetical List of Advertisers

| | |
|---|-------------|
| American Agricultural Chemical Co., New York City. | 3 |
| American Limestone Co., Knoxville, Tenn. | 20 |
| American Potash and Chemical Corp., New York City. | 4, 27 |
| Armour Fertilizer Works, Atlanta, Ga. | 5 |
| Ashcraft-Wilkinson Co., Atlanta, Ga. | Front Cover |
| Barrett Division, Allied Chemical & Dye Corporation, New York City. | — |
| Bemis Bro. Bag Co., St. Louis, Mo. | 25 |
| Bradley & Baker, New York City. | 16 |
| Chemical Construction Corp., New York City. | — |
| Chilean Nitrate Educational Bureau, New York City. | 34 |
| Du Pont de Nemours & Co., E. I., Wilmington, Del. | 23 |
| Farmers Fertilizer Co., Columbus, Ohio. | 34 |
| Fulton Bag & Cotton Mills, Atlanta, Ga. | 6 |
| Gascoyne & Co., Inc., Baltimore, Md. | 34 |
| Hayward Company, The, New York City. | 34 |
| Huber Co., L. W., New York City. | 28 |
| Hydrocarbon Products Co., New York City. | 19 |
| International Minerals & Chemical Corporation, Chicago, Ill. | 21 |
| Keim, Samuel D., Philadelphia, Pa. | 33 |
| McIver & Son, Alex. M., Charleston, S. C. | 29 |
| Monarch Mfg. Works, Inc., Philadelphia, Pa. | 34 |
| Phosphate Mining Co., The, New York City. | 4 |
| Polk Co., R. L., Detroit, Mich. | 29 |
| Potash Co. of America, New York City. | 3rd Cover |
| Raymond Bag Co., Middletown, Ohio. | 18 |
| Ruhm, H. D., Columbia, Tenn. | 34 |
| Sackett & Sons Co., The A. J., Baltimore, Md. | — |
| Schmaltz, Jos. H., Chicago, Ill. | 34 |
| Shuey & Company, Inc., Savannah, Ga. | 34 |
| Southern Phosphate Corp., New York City. | 26 |
| Stedman's Foundry and Machine Works, Aurora, Ind. | 22 |
| Stillwell & Gladding, New York City. | 34 |
| St. Regis Paper Co., New York City. | Back Cover |
| Tennessee Corporation, Atlanta, Ga. | 24 |
| Texas Gulf Sulphur Co., New York City. | 29 |
| U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla. | 27 |
| United States Potash Co., New York City. | 2nd Cover |
| Utility Works, The, East Point, Ga. | — |
| Wellman, William E., Baltimore, Md. | 27 |
| Wiley & Company, Inc., Baltimore, Md. | 34 |

COTTON HULL ASHES

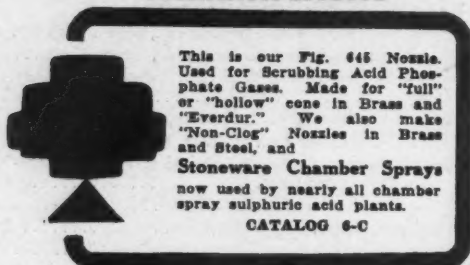
*A Source of Potash for
Tobacco Growers*

SAMUEL D. KEIM

(SINCE 1898)

**1343 ARCH STREET
PHILADELPHIA 7, PA.**

MONARCH SPRAYS



This is our Fig. 645 Nozzle. Used for Scrubbing Acid Phosphate Gases. Made for "full" or "hollow" cone in Brass and "Everdur." We also make "Non-Clog" Nozzles in Brass and Steel, and Stoneware Chamber Sprays now used by nearly all chamber spray sulphuric acid plants.

CATALOG 6-C

MONARCH MFG. WORKS, INC.

Westmoreland and Emory Sts., Philadelphia, Pa.

farm for

VICTORY

NATURAL CHILEAN NITRATE

SHUEY & COMPANY, Inc.

Specialty: Analysis of Fertilizer Materials and Phosphate Rock. Official Chemists for both Florida Hard Rock Phosphate and Pebble Phosphate Export Associations. Official Weigher and Sampler for the National Cottonseed Products Association at Savannah; also Official Chemists for National Cottonseed Products Association.

115 E. BAYSTREET, SAVANNAH, GA.

Stillwell & Gladding

Established 1868

WE MAKE ANALYSES OF
ALL KINDS

130 Cedar Street : : NEW YORK

WILEY & COMPANY, Inc.

Analytical and Consulting Chemists

BALTIMORE, MD.

HAYWARD BUCKETS



Use this Hayward Class "K" Clam Shell for severe superphosphate digging and handling.

THE HAYWARD CO., 202 Fulton St., New York

GASCOYNE & CO., INC.

Established 1887

Chemists and Assayers

Public Weighers and Samplers

27 South Gay Street - BALTIMORE, MD.

The Farmers Fertilizer Co.

Manufacturers

COMPLETE FERTILIZERS

BULK SUPERPHOSPHATE

SULPHURIC ACID

Acid plant capacity, 45,000 tons. Fertilizer plant capacity, 50,000 ton
Get in touch with us COLUMBUS, OHIO

H. D. RUHM

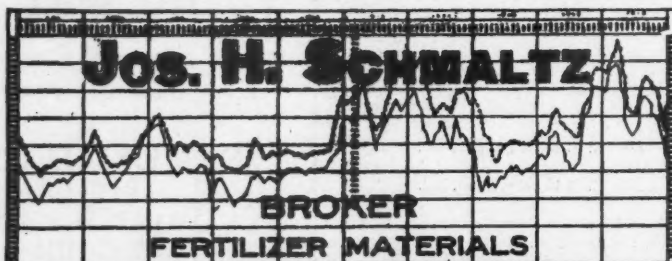
Phosphate Consultant

305 W. 7th Street
COLUMBIA TENNESSEE

Knowledge OF AGRICULTURAL
CHEMISTRY, SOILS,
MANURES, etc., is essential to manufacturers of
Commercial Fertilizers : : Books covering these
subjects may be obtained from

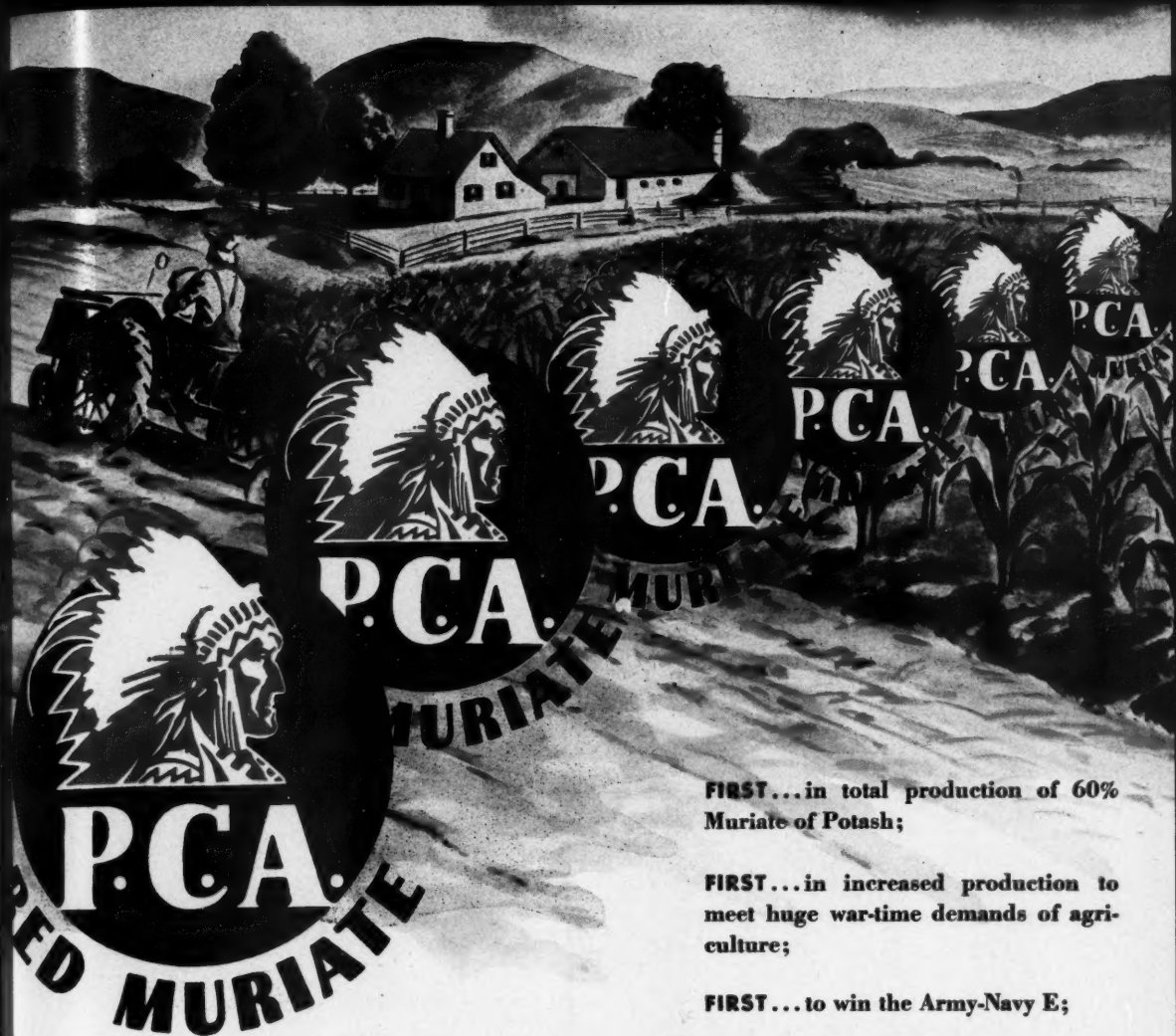
WARE BROS COMPANY
1330 Vine St., Philadelphia

Tankage
Blood
Bone
All
Ammoniates



327
South
La Salle
Street
CHICAGO

OFFICIAL BROKER FOR MILORGANITE



FIRST... in total production of 60%
Muriate of Potash;

FIRST... in increased production to
meet huge war-time demands of agri-
culture;

FIRST... to win the Army-Navy E;

FIRST... to win the White Star for "con-
tinued meritorious service on the home
front";*

FIRST... to win the 2nd White Star for
"great and continuing contribution to
the cause of freedom".*

FIRST, last and always, PCA's Red In-
dian Trade Mark is a safe symbol to tie
to, now, today, and in Post War days
tomorrow.

*Quotations from letters of Robert P. Patterson
Under-Secretary of War.



POTASH COMPANY of AMERICA
CARLSBAD, NEW MEXICO



GENERAL SALES OFFICE 50 Broadway, New York, N. Y. • SOUTHERN SALES OFFICE...Mortgage Guarantee Building, Atlanta, Ga.



"DELIVERING THE GOODS"

FOR VICTORY

Many of the chemicals used for making explosives for land, sea and air forces are packaged in Multiwall Paper Bags. The finest industrial peacetime package has become the essential wartime package.

Multiwall Paper Bags are required for industrial shipments of food products, chemicals, fertilizers, and construction materials — for domestic use and overseas to our armed forces and civilian populations of allied nations and occupied countries.



MULTIPLY PROTECTION • MULTIPLY SALEABILITY
ST. REGIS PAPER COMPANY

TAGGART CORPORATION • THE VALVE BAG COMPANY
NEW YORK 17: 230 Park Ave. CHICAGO 1: 230 No. Michigan Ave.

IN CANADA
BATES VALVE BAG CO., LTD.
Montreal, Quebec
Vancouver, British Columbia

Baltimore 2: 2601 O'Sullivan Building San Francisco 4: 1 Montgomery St.
Boston, Mass. Birmingham, Ala. Dallas, Tex. Denver, Colo.
Los Angeles, Calif. New Orleans, La.
Franklin, Va. Seattle, Wash. Nazareth, Pa. Toledo, Ohio

